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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,858

10/16/2003

Fumio Ohtomo

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21003

7590

07/17/2006

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EXAMINER

ALSOMIRI, ISAM A

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,858

Applicant(s)

OHTOMO ET AL.

Examiner

Isam Alsomiri

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-11 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 10-11, it is not clear what is meant by the claim language "a light-receiving unit has a collimation center, with a deviation of position of reflection light for the collimation center, and wherein the direction of the reflector is obtained from a rotating position of an angle of detection at said reflective light is received, and based of a measured distance a position of said reflector" (claim 10). For purposes of examination, the claim will be read as having a collimation center for the receiver, and the direction of reflector "target" is obtained from the rotating position of an angle of detection.

4. Regarding claim 11, it is not clear what is meant by the claim language "for obtaining a direction and distance of the reflector in rotating irradiation extended, by means of measuring the distance corresponding to a plurality of reflectors". For

purpose of examination, the claim will be read as capable of measuring distances to a plurality of reflectors.

5. Regarding claim 14, it is not clear what is meant by the claim language "difference between image data emitted, reversed detected light, and image data without detecting image data"; it is not clear whether the difference is done between two or three thing. For purpose of examination, the claim will be read as difference between a first image from an active system (illumination and receiving reflections), and a passive image (no illumination).
6. Claims 13-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure does not show or describe the claim language "receiving unit forms a camera tube".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Frucht**
US006188319B1.

9. Referring to claim 15, Frucht discloses in figure 1 a position measuring instrument that irradiates a reflector (object) with measuring light to determine a distance to the reflector on the basis of reflected light (see Abstract), comprising; a rotating unit 20 comprising a rotating mirror 16 and means for expanding the measuring light in a fan-shaped manner (see col. 4 lines 63-66), and a fixed unit 12 comprising a distance-detection light emitting unit 14, a distance-detection light receiving unit 30 and an angle detector detecting the horizontal angle position of the rotating mirror (col. 5 lines 18-21), whereby the measuring light of fan-shape is guided from the fixed unit via the rotating mirror horizontally to the reflector and the measuring light reflected by the reflector is guided via the rotary mirror back to the fixed unit (col. 3 lines 15-32, col. 4 line 62 – col. 5 line 12).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
11. **Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frucht US006188319B1 in view of Cordes US005831724A.**
12. Referring to claim 10, Frucht teaches the direction of reflector “track the target” is obtained from the rotating position of an angle of detection (col. 5 lines 39-42). Frucht is

silent about having a collimation center for the receiver; however, having a collimation center is well known and obvious if not already inherent in Frucht's system. Cordes teaches a lidar system wherein the detector includes an adjustable field of view which reads on the claimed collimation center (see col. 4 lines 14-17, claim 21). It would have been obvious to modify Frucht's system to include the collimation center for accurate detection of the target's direction and position.

13. Referring to claim 11, Frucht teaches measuring distances to a plurality of targets "reflectors" (see Abstract lines 11-14).

14. **Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frucht US006188319B1.**

15. Frucht teaches the light receiving unit forms a camera, the image data captured by the camera is referred to the position data (see col. 8 lines 13-16). Frucht is silent about the camera being a camera tube; however, it is very well known to have any type of camera including the camera tube as an alternative device based on the desired quality or size.

16. **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frucht US006188319B1 in view of Sasaki et al US006137569A.**

17. Frucht is silent about the light receiving unit forms a camera tube, and image data captured by the camera tube is revised based on the difference between a first image from an active system (using emitter), and a passive image (no emitter).

However, Sasaki teaches a camera including the revised step based on the difference between an on and off conditions of the emitter, which reads on the claimed revised step (see Abstract, figures 2A-2C). It would have been obvious to modify Frucht to include the revising step for better and more accurate detection of a center of a target. Further, Frucht is silent about the camera being a camera tube; however, it is very well known to have any type of camera including the camera tube as an alternative device based on the desired quality or size.

18. **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frucht US006188319B1 in view of Aeschlimann US 4,681,433.**

19. Frucht is silent about the claimed “a sending set sends a referenced data to an individual reflector, and based on a plurality of detection, transmit measurement data referenced to a reflected reflector”. However, transmitting data back to a reflector (for example a cooperative target, or a station) is well known. Aeschlimann teaches a device [1,2] to measure a relative position of a target [2'], and transmitting the detected data to the target (col. 3 line 34 – col. 5 line 8, figures 1-2, and 4). It would have been obvious to modify Frucht to include transmitting data back to a reflector such as a cooperative target or a station for quick measurement or testing purposes.

Response to Arguments

Applicant's arguments with respect to claims 10-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Isam Alsomiri

A handwritten signature in black ink, appearing to read 'Isam Alsomiri', with a stylized flourish at the end.

July 7, 2006